

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference UKZ-P004WO		FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. PCT/DE2004/000835	International filing date (day/month/year) 22.04.2004	Priority date (day/month/year) 07.05.2003																									
International Patent Classification (IPC) or national classification and IPC																											
Applicant UNIVERSITÄT KONSTANZ																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																									
Name and mailing address of the IPEA/EP		Authorized officer																									
Facsimile No.		Telephone No.																									

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 1-9 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☒ the drawings:
- sheets 1/6-6/6 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
1. Statement	
Novelty (N)	Claims _____ YES Claims <u>1, 2, 4, 9</u> NO
Inventive step (IS)	Claims _____ YES Claims <u>3, 5-8</u> NO
Industrial applicability (IA)	Claims <u>1-9</u> YES Claims _____ NO
2. Citations and explanations (Rule 70.7)	
	Reference is made to the following documents:
	D1: DE 199 62 136 A (MERCK PATENT GMBH) 28 June 2001 (2001-06-28)
	D2: US-B1-6 309 467 (PICHLER HERBERT ET AL) 30 October 2001 (2001-10-30)
1	The application does not meet the requirements of PCT Article 6 because claims 1, 2 and 5 are not clear. Those claims are unclear because the percentage portions are not defined. "Percent" could mean volume percent, mol percent, gram percent, etc. Nor does the description define the term "percent". Claims 1, 2 and 5 are also unclear because the term "concentrated" does not have a precise meaning.
2	The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 2, 4 and 9 lacks novelty (PCT Article 33(2)).

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

2.1 Document D1 discloses (column 3, lines 39-63):

method for texturing surfaces of silicon wafers, comprising the steps of dipping the silicon wafers into an etching solution consisting of water, concentrated hydrofluoric acid and concentrated nitric acid and setting the temperature of the etching solution, characterised in that the etching solution consists proportionally of 20% to 55% water, 10% to 40% concentrated hydrofluoric acid and 20% to 60% concentrated nitric acid and in that the temperature of the etching solution lies between 0 degrees Celsius and 15 degrees Celsius.

The subject matter of claim 1 thus lacks novelty.

2.2 Regarding claim 2, D1 also discloses (column 3, lines 56-58):

the etching solution consists proportionally of 30% to 40% water, 15% to 30% concentrated hydrofluoric acid and 30% to 50% concentrated nitric acid.

2.3 Regarding claim 4, D1 also discloses (column 3, lines 60-63):

the silicon wafers remain in the etching solution for 2 to 30 minutes.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
2.4	<p>Regarding claim 9, D1 also discloses (column 3, lines 13-19):</p> <p>the silicon wafers are multicrystalline.</p>
3	<p>The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 3 and 5-8 does not involve an inventive step (PCT Article 33(3)).</p>
3.1	<p>Regarding claims 3 and 5: a person skilled in the art would determine the temperature of the etching solution and the treatment time by experimental tests. D2 discloses a treatment temperature of between 8 degrees Celsius and 10 degrees Celsius (column 4, lines 26-28). It would be obvious to a person skilled in the art to combine the teachings of documents D1 and D2. Since the term "percent" in claim 5 is unclear, an inventive step is not acknowledged.</p>
3.2	<p>Regarding claims 6-8: a person skilled in the art would decide on merit how to orient the silicon wafers and whether the etching solution or the wafers should be moved.</p>